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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/037,602	10/19/2001	Frank W. Engle	DC 101	6384

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EXAMINER

LARKIN, DANIEL SEAN

ART UNIT

PAPER NUMBER

2856

DATE MAILED: 09/08/2003

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.
10/037,602

Applicant(s)
ENGLE et al.

Examiner
Daniel Larkin

Art Unit
2856



-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE THREE (3) MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136 (a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 6 Jun 2003
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11; 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-58 is/are pending in the application.
- 4a) Of the above, claim(s) 1-18 and 29-58 is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 19, 20, and 28 is/are rejected.
- 7) ☒ Claim(s) 21-27 is/are objected to.
- 8) ☐ Claims _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☒ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 19 Oct 2001 is/are a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on _____ is: a) ☐ approved b) ☐ disapproved by the Examiner.
If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

- 13) ☐ Acknowledgement is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
a) ☐ All b) ☐ Some* c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
*See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgement is made of a claim for domestic priority under 35 U.S.C. § 119(e).
a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgement is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892) 4) ☐ Interview Summary (PTO-413) Paper No(s). _____
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948) 5) ☐ Notice of Informal Patent Application (PTO-152)
- 3) ☒ Information Disclosure Statement(s) (PTO-1449) Paper No(s). 4 6) ☐ Other: _____

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DETAILED ACTION

Election/Restriction

1. Applicants' election with traverse of Group II, claims 19-28, in Paper No. 5 is acknowledged. The traversal is on the ground(s) that the apparatus groups and the method group each have "sufficient" overlap as to warrant a search of all the apparatus groupings or all of the method groupings. This is not found persuasive because firstly, sufficient overlap is not the standing upon which a restriction is based. Although the Examiner concedes that all of the apparatus groupings or all of the method groupings contain some of the same limitations to create structural overlap, each subgrouping within the apparatus or method grouping proposed by Applicants contains limitations that a comparative subgrouping does not and vice versa, which in turn creates a burden for the Examiner to search each and every possible combination. Structural limitations in one grouping which does not appear within another grouping may be a patentable combination no matter how slight the missing or added limitations may appear.

The requirement is still deemed proper and is therefore made FINAL.

2. Claims 1-18 and 29-58 are withdrawn from further consideration pursuant to 37 CFR 1.142(b), as being drawn to a nonelected inventions, there being no allowable generic or linking claim. Applicants timely traversed the restriction (election) requirement in Paper No. 6.

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Drawings

3. The drawings are objected to as failing to comply with 37 CFR 1.84(p)(5) because they do not include the following reference sign(s) mentioned in the description:

Reference numeral -- 36 -- does not appear within Figure 2 as suggested by the disclosure on page 22, line 18.

Reference numeral -- 45 -- does not appear within Figure 2 as suggested by the disclosure on page 22, line 28.

Reference numeral -- 120 -- does not appear within Figure 9 as suggested by the disclosure on page 33, lines 18 and 19.

Reference numeral -- 199 -- does not appear within Figure 9 as suggested by the disclosure on page 33, line 20.

Reference numeral -- 122 -- does not appear within the drawing figures as suggested by the disclosure on page 34, line 9.

4. The drawings are objected to because of the following:

Reference numeral "34" does not appear to be representative of a "port" as suggested by the disclosure on page 22, lines 13 and 15. Reference numeral "34" appears to be representing the "measurement chamber roughing line" as shown in Figure 2.

5. The drawings are objected to as failing to comply with 37 CFR 1.84(p)(4) because the following reference characters have been used to identify two different structures:

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Reference numeral “48” has been used to designate both a “header”, as shown in Figure 2, and a “mass spectrometer”, also shown in Figure 2.

Reference numeral “66A” has been used to designate both a “first rough vacuum fitting”, as shown in Figure 4, and a “second rough vacuum fitting”, also shown in Figure 4.

6. The drawings are objected to as failing to comply with 37 CFR 1.84(p)(5) because they include the following reference sign(s) not mentioned in the description:

Reference numeral -- 84 --, as shown in Figure 5, does not appear within the written specification

Reference designation -- T_1 --, as shown in Figure 8, does not appear within the written specification.

Reference designations -- T_0 --, -- T_{FH} --, and -- T_{FGOFI} --, as shown in Figure 9, do not appear within the written specification.

7. Applicants are required to submit a proposed drawing correction or corrected drawings in response to this Office Action. Drawing changes must be made by presenting replacement figures which incorporate the desired changes and which comply with 37 CFR 1.84. An explanation of the changes made must be presented either in the drawing amendments, or remarks, section of the amendment, and may be accompanied by a marked-up copy of one or more of the figures being amended, with annotations. Any replacement drawing sheet must be identified in the top margin as “Replacement Sheet” and include all of the figures appearing on the immediate prior version of the sheet, even though only one figure may be amended. Any marked-up (annotated) copy

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showing changes must be labeled “Annotated Sheet Showing Changes” and accompany the replacement sheet as an appendix to the amendment. The figure or figure number of the amended drawing(s) must not be labeled as “amended”. If the changes to the drawing figure(s) are not accepted by the Examiner, Applicants will be notified of any required corrective action in the next Office action. No further drawing submission will be required, unless Applicants are notified.

Specification

8. The lengthy specification has not been checked to the extent necessary to determine the presence of all possible minor errors. Applicants’ cooperation is requested in correcting any errors of which Applicants may become aware in the specification.

9. The disclosure is objected to because of the following informalities:

Page 21, line 17: The term “o-ring” should be corrected to read -- O-ring --.

Page 22, lines 4, 6, and 8: The term “o-ring” should be corrected to read -- O-ring --.

Page 23, line 1: The terms “an or” should be corrected to read -- a --.

Page 24, line 4: Reference numeral “36” should be corrected to read -- 33 --.

Page 24, line 12: Reference numeral “42” should be corrected to read -- 32 --.

Page 24, line 19: The term “o-ring” should be corrected to read -- O-ring --.

Page 33, lines 18-19: Should “Figure 9” be corrected to read -- Figure 8 -- since reference numeral “120” does not appear in Figure 9.

Page 33, line 20: Reference numeral “199” should be corrected to read -- 119 --.

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Page 35, line 21: Reference to Figure 10 should be corrected because no Figure 10 exists.
Appropriate correction is required.

Claim Objections

10. Claims 18-29 are objected to because of the following informalities:

Re claim 18, claim line 6: A -- comma -- should be inserted after the term “material”.

Re claim 18, claim line 15: The “comma” after the conjunction “and” should be deleted.

Re claim 19, claim line 16: The phrase “said *gas of interest*” lacks antecedent basis.

Re claim 23, claim line 6: The phrase “said *correlating step*” lacks antecedent basis.

Re claim 26, claim line 1: A -- comma -- should be inserted after the term “helium”.

Re claim 27, claim line 1: The phrase “said *correlating step*” lacks antecedent basis.

Re claim 29, claim line 18: A -- comma -- should be inserted after the term “port”.

Re claim 29, claim line 29: A -- comma -- should be inserted after the term “pump”.

Appropriate correction is required.

Claim Rejections - 35 USC § 103

11. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person

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having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

12. Claims 19, 20, and 28 are rejected under 35 U.S.C. 103(a) as being unpatentable over US 3,926,561 (Lucero) in view of US 4,944,180 (Tou et al.).

With respect to the limitations of claim 19, the reference to Lucero discloses a system for performing gas analysis on a semi-permeable membrane comprising providing a sealable box (10) for placement of the material; sealing the material within the box (10) to create a test gas chamber (left) and a measurement chamber (right); continuously metering a quantity of gas through a conduit (40) which leads to the material; drawing a vacuum in the measurement chamber through the use of a vacuum pump (86); providing a gas analyzer (84) in direct connection with the measurement chamber; and determining the transmission of the gas through the material.

The reference to Lucero fails to disclose that the analyzer is a mass spectrometer. The reference to Tou et al. discloses a permeation measurement device for a polymer film in which a mass spectrometer acts as the gas analyzer. Providing a mass spectrometer to act as a gas analyzer in a permeability test would have been obvious to one of ordinary skill in the art because mass spectrometers are known to be highly sensitive and reliable.

With respect to the limitations of controlling the concentration of gas in the test gas chamber by using a vacuum pump, the reference to Lucero fails to expressly recite this; however, the Examiner argues that one of ordinary skill in the art would have the requisite ability to perform this step given the structure of the Lucero invention as a means of insuring that an

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adequate concentration of gas is present in order to perform a true test of the material's permeability.

With respect to the limitation of pressurizing the chamber to a specific value, the Examiner argues that one of ordinary skill in that would have the requisite ability to provide a specific vacuum pump to meet the specific needs of the application. Denser materials may require a stronger vacuum in order to make the testing process less time consuming.

With respect to the limitation of claim 20, the Examiner argues that calibration of a gas analyzer, i.e. mass spectrometer, is well known in the measurement art. Providing periodic calibration allows an operator to know if the mass spectrometer is operating properly which in turn allows the operator to gather accurate information of the entire testing process.

With respect to the limitation of claim 28, the reference to Lucero discloses that the permeable material (60) is held within a pair of aluminum plates (64, 66). The plates (64, 6) are each provided with screens or grids (74) which help to assist in supporting the material (60).

NOTE: Prior art was not relied upon to reject claims 21-27 because the prior art fails to teach and/or make obvious the limitations of the above cite claims in combination with all of the limitations of the base claim and any intervening claims.

Conclusion

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13. The prior art made of record and not relied upon is considered pertinent to Applicants' disclosure.

The prior art to US 3,590,634 (Pasternak et al.) and US 3,718,434 (Pierce) each disclose apparatus for use in determining permeation of fluid through a material.

14. Any inquiry concerning this communication or earlier communications from the Examiner should be directed to Daniel Larkin whose telephone number is (703) 308-6724. The Examiner can normally be reached on Monday-Friday from 7:00 AM - 4:00 PM.

If attempts to reach the Examiner by telephone are unsuccessful, the Examiner's supervisor, Hezron E. Williams, can be reached on (703) 305-4705. The FAX telephone number for this Technology Center (TC 2800, unit 2856) is (703) 308-7382.

Any inquiry of a general nature or relating to the status of this application should be directed to the Group receptionist whose telephone number is (703) 308-0956.

Daniel Larkin

25 August 2003


DANIEL S. LARKIN
PRIMARY EXAMINER